

Transformative teaching in Higher Education for Sustainable Development: facing the challenges

Are teachers ready to support sustainability transformations in tertiary education? We frame major teaching challenges within transformative learning theory and offer a schematic model of transformative learning including liminality and emotions.

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Higher education: fit for transformative teaching?

Higher Education for Sustainable Development (HESD) can be understood as an emancipatory, participatory, inclusive, and transformative form of education enabling individuals and groups to transform themselves as well as to contribute with others to urgent systemic transformation towards sustainable development (Biberhofer 2019). This requires transformative teaching that is learner and competence oriented (Wilhelm et al. 2019), is rooted in transformative learning theory (Taylor 2017) and engages with the normativity of research for sustainable development (Schneider et al. 2019), as well as with liminal experiences and inter- and transdisciplinary methods (Balsiger et al. 2017).

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Implementing transformative teaching in HESD is challenging. Students and teachers need to be willing and able to engage in a transformative learning (TL) process that begins with questioning whether their ontological, epistemic and normative premises contribute to a sustainability transformation or must be transformed (Ross and Mitchell 2018). Besides learning at the cognitive level, this also requires learning at the emotional level. Furthermore there is a lack of experience of how to shape and implement transformative teaching that connects these levels within HESD contexts (Biberhofer 2019).

This article discusses how TL is experienced from a learner's perspective and what this implies for teachers in HESD. We focus on the role of liminality and emotions for fostering TL, as they are essential for this learning process while also particularly challenging in an academic context. We then introduce a model of transformative learning to help teachers to better understand and accompany transformative learning, and name remaining challenges to be addressed also by saguf.¹

Conceptual roots: transformative learning theory

According to O'Sullivan and Morrell (2002, p. 18) TL in the context of education for sustainable development supports "a deep structural shift in the basic premises of thought, feelings and actions. It is a shift

of consciousness that dramatically and permanently alters our way of being in the world. Such a shift involves our understanding of ourselves and our self-location: our relationships with other humans and with the natural world."

Mezirow (2012) describes these "basic premises" as "meaning perspectives", for example, paradigms, beliefs, worldviews, assumptions and values that guide our thinking and actions. Consequently TL in (H)ESD encompasses not only a transformation of the *epistemological* dimension of knowing: how we know, produce knowledge and make meaning, but also of the *ontological*: what we know and define as reality (Taylor 2017), and of the *normative*: how we value. Moreover, TL affects the whole person and being itself, and should ideally result in altering feelings, thoughts and actions (Mäklki and Green 2014).

Viewed through a didactic lens this means engaging with different learning domains (Scheidegger 2018): the cognitive, physical, emotional and social domains. Educators at higher education institutions thus need to broaden their lens from mainly addressing the cognitive learning domain to including the other levels of being and knowing mentioned above.

¹ The authors are members of the saguf working group *Education for Sustainable Development*.

Coping with liminality and emotions

To be able to initiate TL processes through transformative teaching, teachers must better understand the process of a learner's transformation and the role of liminality and emotions. Figure 1 offers a schematic model of transformative learning for preparing transformative teaching practice; it is inspired particularly by Mälkki and Green (2014) and Land et al. (2014).

What initiates transformative learning?

Most authors agree that TL is sparked inside or outside a person by an irritation, a "disorientation dilemma" (i. e., an experience that challenges one's meaning making and being, such as working in a foreign culture), or even a crisis (e. g., a natural disaster or loss of a job). These triggers challenge current thinking, feeling, acting and their underlying premises, that is, a person's meaning perspectives, making them accessible to critical reflection and finally to transformation. The process of changing meaning perspectives can take place suddenly or over a longer period of time through different irritations and ongoing insights, without a specific crisis as trigger.

How do learners experience the process?

Coming from a semi-stable pre-liminal state (state A in figure 1), learners experi-

ence a state of liminality triggered by a strong enough irritation. This state is crucial for transformation and ends in a semi-stable state B, with a changed meaning perspective and new ways of being that may have to be integrated and trained further.

In the liminal state the "old" meaning perspective and way of being is no longer valid and the "new" not yet clear (Land et al. 2014). Orientation is destabilized in "that 'in-between' zone where all that was once stable has become fluid [... and the] subject faces the threat of disintegration, as they give up the relative stability of one configuration (of self) in preparation for a new way of being" (Mälkki and Green 2014, p. 8); learners experience "edge emotions", indicating a "(learning) edge" that the learner must face. As also described in pedagogy (Scheidegger 2018), the emotional comfort zone must be abandoned to embark on the TL journey. Neurobiological investigations (Taylor 2017) confirm that emotional discomfort is a prerequisite for transformation.

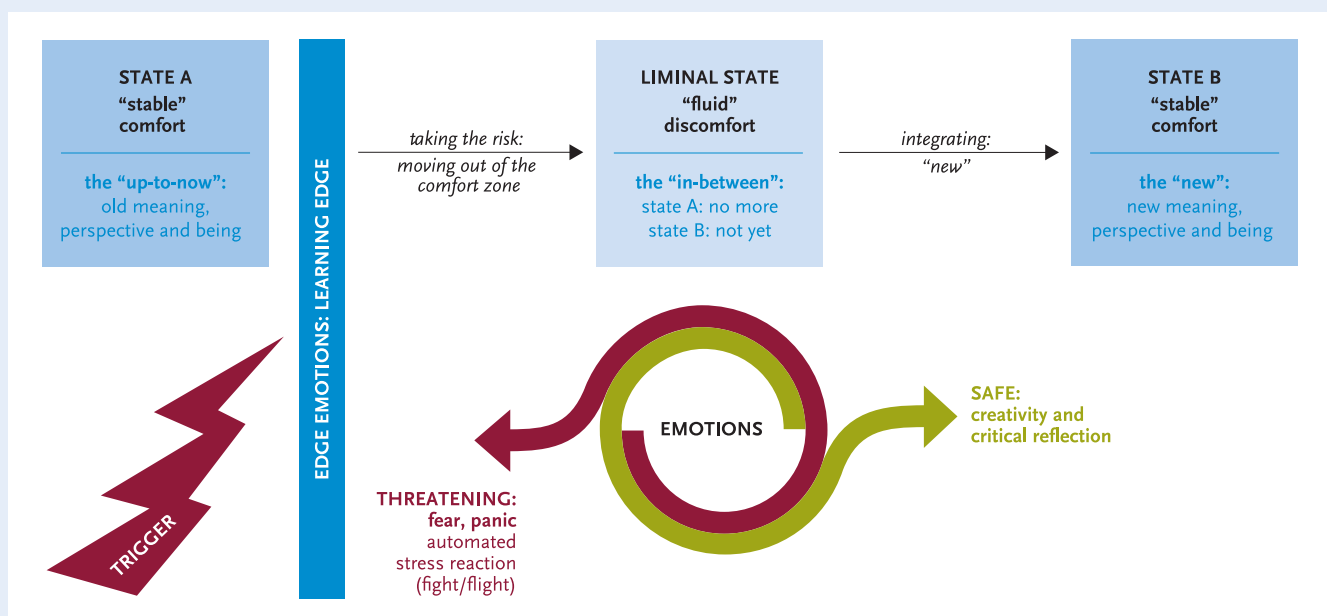
However, highly unpleasant emotional states such as stress, doubt, fear or even worse, panic or depression, may hinder TL and trigger a desire to stay in or to get back to the original state, emotionally more pleasant since it is a well-known state (Mälkki and Green 2014), or may lead to getting

stuck in the liminal state. But being in the liminal state can also (and needs to) trigger pleasant emotions connected for example with a sense of meeting or mastering a challenge (Land et al. 2014).

How stressful a learner perceives the liminal space and the whole transformation process to be after taking the risk of leaving the comfort zone, and how successful he or she is in navigating through it, depends also on the learner's resources to cope with it: on inner assets, such as self-efficacy or resilience (Rattray 2016), and on resources from outside, including safe relationships. This is informed by a neurobiological understanding of stress development (Porges 2017). Key is how the situation is unconsciously evaluated by the learner: if it is perceived as threatening for one's being, automated stress patterns are triggered, hindering both cognitive critical reflection and creative processes as well as options for positive social contact. On the other hand, if the situation is evaluated as safe enough, the learner will have access to more resources to meet challenges, including creativity.

Transformation processes are very personal, unique, and context-bound, even in a curricular environment. Our understanding is also that the transformation process is iterative rather than straightforward, >

FIGURE 1: A model of transformative learning including liminality and emotions.



and needs time and space; finally, transformation is irreversible and further transformation may follow.

Facilitating the transformative learning process

To support students who enter the liminal space and navigate through it, teachers need to enable them to find a (personal) balance between fluidity, letting go of the “up to now”, opening up to the unknown “new” and finding stability and security again. Students have to find a balance between dealing with uncomfortable challenges and activating and building up resources, including the ability to regulate emotions such as stress, creativity for exploring new ways of being, and rational critical reflection and discourse. This requires important resources from outside: the learner needs a safe learning environment and trustful relationships with teachers and co-learners.

Challenges may be induced and addressed by context change, for example, outdoor learning (Scheidegger 2018) and didactic learning formats like field trips or real-world labs. Resources can be activated through well-known peer-learning practices, and through embodied and creative practices like expressive arts, allowing productive access to unpleasant and pleasant emotions for exploring new states of thinking, feeling and acting, and fostering self-efficacy.

Taking into account liminality and emotions requires that teachers develop competences for accompanying TL processes and are willing to embark in TL themselves. Their role shifts to being a facilitator or coach (Balsiger et al. 2017). This includes being able

- to acknowledge that emotions are crucial for the transformative learning process and to provide a safe learning environment where students' competence in processing emotions and exploring new ways of thinking, feeling and acting can be fostered;
- to reflect on one's own underlying paradigms and teaching practices, be willing to experience liminality, and be prepared to cope with the liminality of learners.

Challenges of transformative teaching in HESD

Challenges connected with liminality and emotions remain for implementing transformative teaching in HESD:

Identifying the learning edge

How do teachers recognize and cater for the learning edge that can initiate transformative learning among individuals and groups, given the uniqueness of each person's learning edge and transformation process?

Ethics and feasibility

Transformative teaching cannot have the goal of intentionally triggering a deep crisis leading to panic or depression among learners. We have the duty to clarify what kind of intentional trigger for TL is (ethically) permissible and whether adequate facilitation in the liminal space in the context of HESD is feasible, and to aim for creating a safe space for transformation.

Quality assurance

How do we facilitate the learning process while taking into account liminality and emotions when dealing with normativity, and at the same time ensure quality and competence-oriented teaching?

To meet these challenges, there is a need for consolidating frameworks for transformative teaching for HESD as well as integrating inter- and transdisciplinary approaches, and widening the lens for other approaches, such as experiential learning, outdoor pedagogy, expressive arts and movement, and embodiment. This will require empirical research on the impact of the applied didactics, as well as professional development and a reflection on institutional issues.

saguf is collaborating with other networks, experts and practitioners, in particular *td-net* and the *COPERNICUS Alliance*, to further explore how to contribute to implementing transformative learning and teaching in HESD. A major common event in this respect will be the joint *COPERNICUS Alliance*, *td-net* and *saguf Quality Education Summit* from 31 August to 2 September 2020 in Bern, Switzerland.

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MORE INFORMATION:

saguf working group Education for Sustainable Development:
https://naturwissenschaften.ch/organisations/saguf/projects/education_for_sustainable_development

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